ACCORD, CIVIC, & PRELUDE 4 CYLINDER

ENGINE CODING

ENGINE IDENTIFICATION

Engine serial number is stamped on firewall side of engine block, near the transaxle. Serial number is proceeded by engine model number.

Application	Code
Civic	
1335 cc	EJ1
1487 cc	EM1
Accord (1751 cc)	EK1
Prelude (1751 cc)	EK1

ENGINE, CYLINDER HEAD, & MANIFOLDS

ENGINE

Removal – 1) Remove battery cables, battery, and mounting tray. Remove headlight trim, front bumper apron, and grille to gain access to hood brackets. Remove hood. Drain coolant, engine oil, and transmission fluid. Remove air cleaner and attached ducting. Disconnect brake booster hose at elbow and all electrical connections and wires to engine. Disconnect fuel lines and throttle cable. Remove radiator hoses and heater hoses. If equipped, detach EGR control box and let hang next to engine. Remove alternator.

2) If equipped, remove air conditioner hoses and compressor (Accord). On other models, remove compressor with hoses attached and wire out of way. On manual transmission models, remove clutch slave cylinder with hydraulic line attached. On automatic transmission models, remove oil cooling lines. On all models, disconnect speedometer cable. If equipped, remove power steering pump and bracket.

3) Place front of vehicle on jack stands and remove front wheels. On Prelude, remove engine guards and stabilizer bars. On all models, disconnect right and left lower arm ball joints and tie rod ends. Remove right and left axles. On vehicles with automatic transmissions, remove shift console, indicator, shift cables, and housing. On manual transmission models, disconnect shift rod clevis and torque rod. On all models, disconnect exhaust pipes.

4) Attach suitable lifting device, and raise engine enough to off-load engine mounts. Remove engine support bolts, and push left engine support into shock mount bracket. Remove front and rear engine mounts and torque rods. Carefully lift engine/transaxle assembly out of vehicle, ensuring all wires and hoses are detached.

Installation – Install engine in reverse order of removal. When replacing axles, insert shaft until spring clip "clicks" into groove in differential side gear. Make sure all control cables are adjusted properly.

CYLINDER HEAD

NOTE – *To avoid damage, do not remove cylinder head until engine has been allowed to cool.*

Removal – 1) Disconnect battery, drain cooling system, and remove air cleaner and related hoses. Disconnect all electrical wires and connections to cylinder head. Disconnect fuel line, throttle cable, and emission hoses from carburetor, and remove carburetor.

2) Remove radiator and heater hoses. Disconnect hot air ducts and remove header pipe from exhaust manifold. On vehicles with air conditioning, remove alternator and bracket. On vehicles without air conditioning, remove bolt securing alternator bracket to cylinder head, and loosen alternator adjusting bolt. Remove valve cover and timing belt upper cover.

3) Bring No. 1 piston to TDC. Loosen timing belt pivot and adjusting bolts, and slip timing belt off camshaft pulley. Remove oil pump gear cover and pull oil pump shaft out of cylinder head. Remove cylinder head bolts in reverse of tightening sequence by turning 30° at a time until loose. Remove cylinder head.

NOTE – *Do not crimp or bend timing belt more than 90°, or less than 1" (25 mm) in diameter.*

4) Measure cylinder head warpage along the edge and 3 ways across center. If under .002" (.05 mm), resurfacing is not required. If clearance is .002-.008" (.05-.20 mm), resurfacing is necessary.

Installation – Ensure that all mating surfaces are clean and free of cracks. Using a new head gasket, place head in position, making sure dowel pins line up. On 1751 cc engines, "Up" mark on camshaft gear should be on top. On 1335 and 1487 cc engines, cutout in camshaft gear should be at top. On all models, tighten head bolts as shown in *Fig. 1*, and complete installation in reverse order of removal.

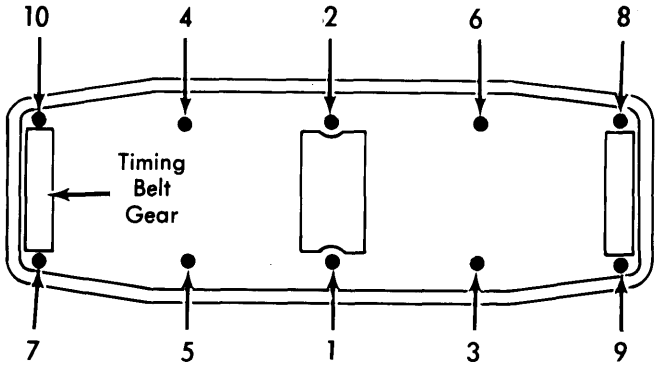

Fig. 1 Cylinder Head Tightening Sequence (Loosen in Reverse Sequence)

MANIFOLDS

Removal – Loosen 4 intake-to-exhaust manifold bolts, then remove special manifold-to-head mounting nuts in reverse of tightening sequence. See *Figs. 2 and 3*. Remove and disassemble manifolds.

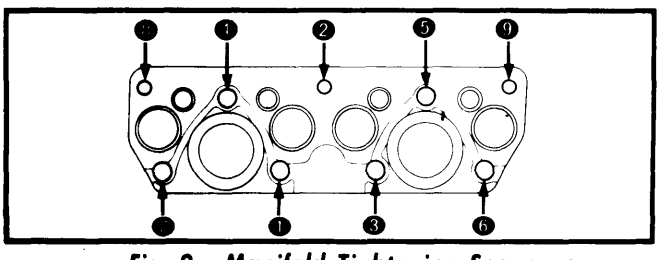

Fig. 2 Manifold Tightening Sequence (All Exc. Calif. Auto. Trans.)

ACCORD, CIVIC, & PRELUDE 4 CYLINDER (Cont.)

Installation – Use new gaskets between manifolds and heat shield and tighten 4 bolts holding manifolds together FINGER TIGHT. Place manifolds and new gasket in position on cylinder head and tighten special mounting bolts to final torque as shown in *Fig. 2*. Tighten intake-to-exhaust manifold bolts to final torque. On California vehicles with automatic transmissions, a different gasket is used. Follow same procedure, using tightening sequence shown in *Fig. 3*.

NOTE – ***Spring washers under special nuts must be mounted with dished surface facing in.***

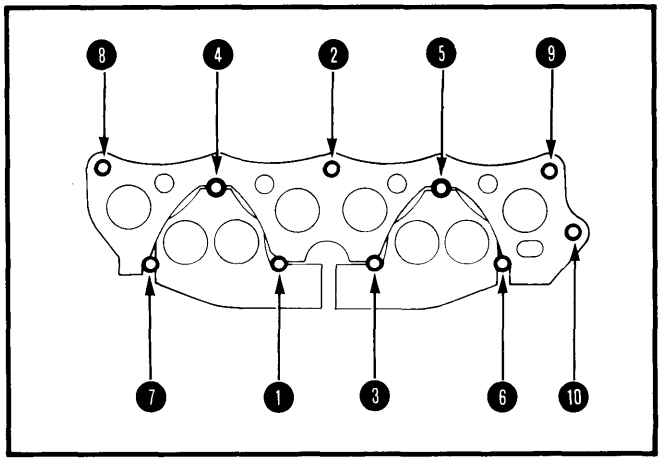

Fig. 3 Manifold Tightening Sequence (California Auto. Trans. Only)

TIMING BELT

1) Remove water pump drive belt, water pump pulley and crankshaft pulley. Remove upper timing belt cover from cylinder head and remove lower timing belt cover from engine block.

2) Loosen, do not remove, timing belt adjusting and pivot bolts. Slide belt off pulleys. To install, reverse removal procedure using care not to excessively bend or twist belt. Do not expose belt to engine oil or grease as this will damage belt. Install belt so same direction of rotation will be maintained to prevent excessive belt wear.

CAMSHAFT

Removal – Check camshaft end play before removing any valve components. Reading should be .002-.006" (.05-.15 mm). Replace camshaft if wear limit of .02" (.5 mm) is exceeded. Remove rocker assembly from head, taking care to remove rocker arm bolts 2 turns at a time to prevent damage to valves or rocker assembly. Inspect camshaft lobes and bearing journals for wear or damage. Using Plastigage method, check camshaft journal clearance. Check camshaft for runout. If it exceeds .002" (.06 mm), replace camshaft.

Installation – Oil camshaft bearing journals and install camshaft with keyway pointing up (No. 1 piston at TDC). Apply a non-hardening sealer to mating surfaces on end camshaft supports and cylinder head. Set rocker assembly in place and tighten bolts from the center out, two turns at a time until proper torque is reached.

CAMSHAFT

Camshaft Lobe Height

Application	In. (mm)
1335 cc	
Intake	1.4930-1.5025 (37.92-38.16)
Exhaust	1.4942-1.5037 (37.95-38.19)
Auxiliary	1.7316-1.7442 (43.98-44.30)
1487 cc	
Intake	1.4807-1.4901 (37.61-37.85)
Exhaust	1.4819-1.4913 (37.64-37.88)
Auxiliary	1.3214-1.3336 (33.56-33.87)
1751 cc (Exc. Calif. Auto. Trans.)	
Auto. Trans.	
Intake	1.4782-1.4876 (37.55-37.79)
Exhaust	1.4814-1.4909 (37.63-37.87)
Auxiliary	1.7219-1.7345 (43.74-44.06)
Manual Trans.	
Intake	1.4930-1.5025 (37.92-38.16)
Exhaust	1.4962-1.5057 (38.01-38.24)
Auxiliary	1.7219-1.7345 (43.74-44.06)
1751 cc (Calif. Auto. Trans.)	
Intake	1.4930-1.5025 (37.92-38.16)
Exhaust	1.4962-1.5057 (38.01-38.24)
Auxiliary	1.3121-1.3247 (33.33-33.65)

VALVE TIMING

1) Rotate crankshaft until TDC mark on flywheel or driveplate is aligned with index mark. On 1751 cc engines, "UP" mark on camshaft gear should be at 11 o'clock position and timing mark aligned with arrow on cylinder head. See *Fig. 4*.

2) On 1335 cc engines, cutaway in camshaft gear should be at top, and timing marks aligned with valve cover surface. On 1487 cc engines, cutaway should be at top and timing mark aligned with arrow on cylinder head. See *Fig. 5*. Slide timing belt on without disturbing pulley positions and adjust belt tension.

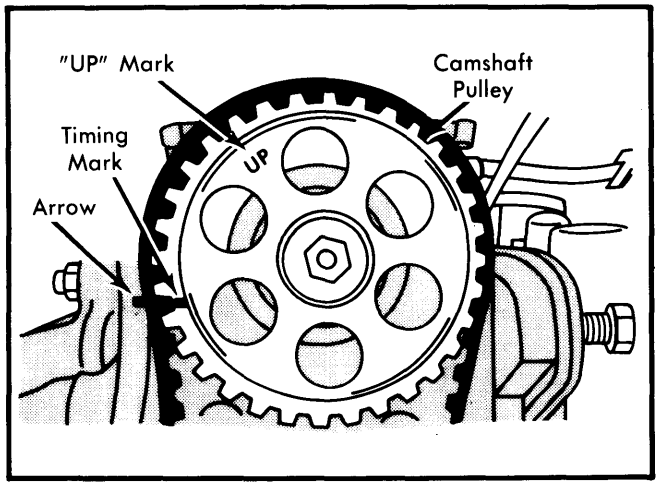

Fig. 4 Camshaft Alignment Marks in Position for Installing Camshaft Belt (1751 cc Engine)

ACCORD, CIVIC, & PRELUDE 4 CYLINDER (Cont.)

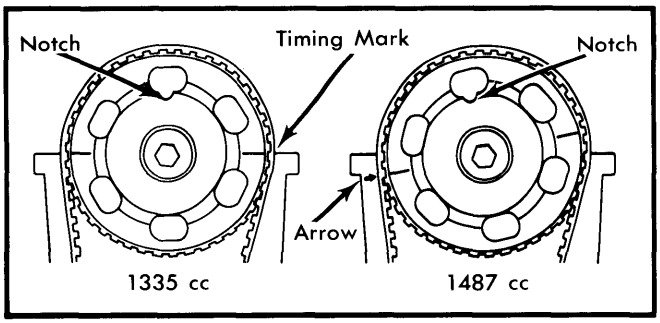

Fig. 5 Camshaft Alignment Marks (1335 & 1487 cc Engines)

TIMING BELT TENSION

Tension is spring loaded to apply proper tension to timing belt automatically after making the following adjustment: Loosen timing belt pivot bolt (upper) and adjusting bolt (lower). Rotate crankshaft approximately ¼ turn counterclockwise to create tension on timing belt. Tighten adjusting bolt, then tighten pivot bolt. Tighten bolts to 32 ft. lbs. (4.3 mkg).

VALVES

VALVE ARRANGEMENT

Rear Side – I-E-E-I-I-E-E-I (left to right).
Front Side – All Auxiliary.

ROCKER ARM ASSEMBLY

Removal – Loosen rocker arm shaft support bolts in criss-cross pattern starting with end supports. Pull out roll pins from both end shaft supports and remove supports, rocker collars, rocker arms and springs. Retain components in proper order for reassembly.

Installation – Measure all rocker arms for arm-to-shaft clearance. If clearance exceeds .0035" (.08 mm), replace rocker shaft and/or arms. Assemble in reverse of disassembly and install rocker arm assembly on engine. Tighten support bolts in a criss-cross pattern starting with center support.

VALVE SPRINGS

Intake & Exhaust Valves – Using valve spring compressor, remove valve keepers, collars and springs. Check valve springs for squareness, free length and tension. Install in reverse of removal procedure, making sure closely wound coils are nearest cylinder head.

AUXILIARY VALVES

1) Remove auxiliary valve holder nut using special "T" wrench (07907-657001) and pull valve holder assembly out of head. Auxiliary chamber collar may be removed with a slide hammer type puller.

2) Compress spring and remove keepers. Disassemble and inspect valve assembly. Valve seat may be reconditioned, however entire assembly should be replaced if any component exceeds service limit.

3) Install chamber collar in each auxiliary valve hole with 2 new gaskets. Use alignment tool (07944-6590000) inserted in round hole toward spark plug opening with oval hole of collar towards combustion chamber. Leave alignment tool in place and insert auxiliary valve with new "O" ring, torquing to final specification with same tool used for removal.

VALVE GUIDE SERVICING

NOTE – *For best results, heat cylinder head to 300°F (150°C) to remove or replace valve guides.*

Using suitable driver, drive valve guides out of cylinder head from port side. Install new guides from top of head with driver and attachment. Drive guide in until attachment bottoms on head. Ream valve guides to provide proper clearance.

VALVE CLEARANCE ADJUSTMENT

Remove valve cover and rotate crankshaft so that No. 1 piston is at TDC on firing stroke. Adjust valve clearance on No. 1 cylinder. Rotate crankshaft 180° COUNTERCLOCKWISE so that No. 3 piston is at TDC, and adjust it's valves. Rotate crankshaft an additional 180°, and adjust valves on cylinder No. 4. Finally, rotate crankshaft an additional 180°, and adjust valves on cylinder No. 2.

Valve Clearance Specifications

Application	In. (mm)
1335 cc and 1487 cc	
Intake and Aux.	.005-.007 (.12-.17)
Exhaust	.007-.009 (.17-.22)
1751 cc	
Intake and Aux.	.005-.007 (.12-.17)
Exhaust	.010-.012 (.25-.30)

PISTONS, PINS & RINGS

PISTON & ROD ASSEMBLY

1) With oil pan and cylinder head removed, ream any ridge from top of cylinders. Mark piston and rod assemblies for proper reinstallation. Remove rod caps and push piston and rod assemblies out top of cylinder with a hammer handle.

2) Assemble piston and connecting rod with piston front mark and connecting rod oil jet hole on same side and facing intake manifold. Using a ring compressor, install piston and rod assemblies in proper cylinder.

NOTE – *Do NOT confuse reference number stamped across bearing cap and connecting rod with number indicating position of assembly in engine. This number indicates rod bore diameter only.*

FITTING PISTONS

1) Measure cylinder bore for taper and out-of-round. If taper exceeds .004" (.1 mm) or out-of-round exceeds .002" (.05 mm), rebore cylinder for oversize pistons. Determine piston-to-cylinder clearance. If not within specifications reboring is necessary. Oversize pistons are available with diameters of 2.84" (72.23 mm) or 1335 cc engines, 2.927 (74.22 mm) for 1487 cc engines, and 3.04" (72.22 mm) for 1751 cc engines.

2) Install 3 piece oil ring on piston with end gaps of rails and spacer staggered about 15°. Install top ring gap approx-

ACCORD, CIVIC, & PRELUDE 4 CYLINDER (Cont.)

imately 90° from oil spacer and second ring gap 180° from spacer. Make sure no end gaps are in line with piston pin or thrust face of piston. Install all rings with markings facing upward.

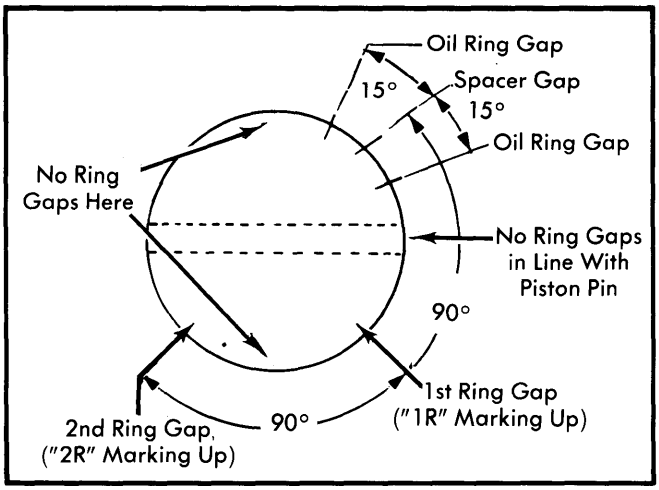

Fig. 6 Piston Ring Installation

PISTON PINS

Using a hydraulic press, remove piston pin from piston and connecting rod. Be sure recessed flat portion aligns with lips on collar. Install new pin by lightly oiling pin and pressing it into connecting rod until centered. Make sure piston is installed with mark on crown on same side as oil hole in connecting rod.

CRANKSHAFT MAIN & CONNECTING ROD BEARINGS

MAIN & CONNECTING ROD BEARINGS

1) Prior to disassembly, mark main and connecting rod bearings caps for reassembly in their original positions and check crankshaft endplay and connecting rod side play. Remove piston and connecting rod assemblies, remove main bearing caps and remove crankshaft.

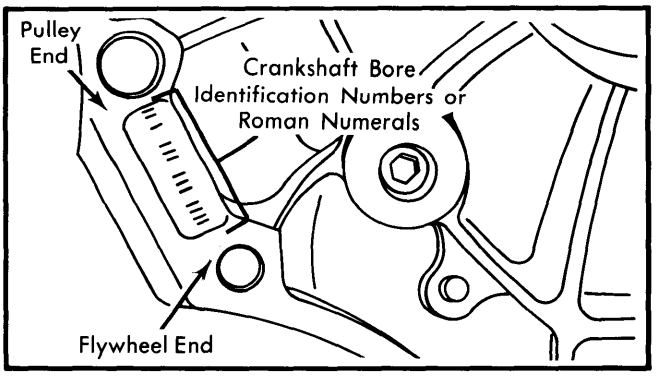

Fig. 7 Crankshaft Identification Locations (1751 cc and 1487 cc Engines)

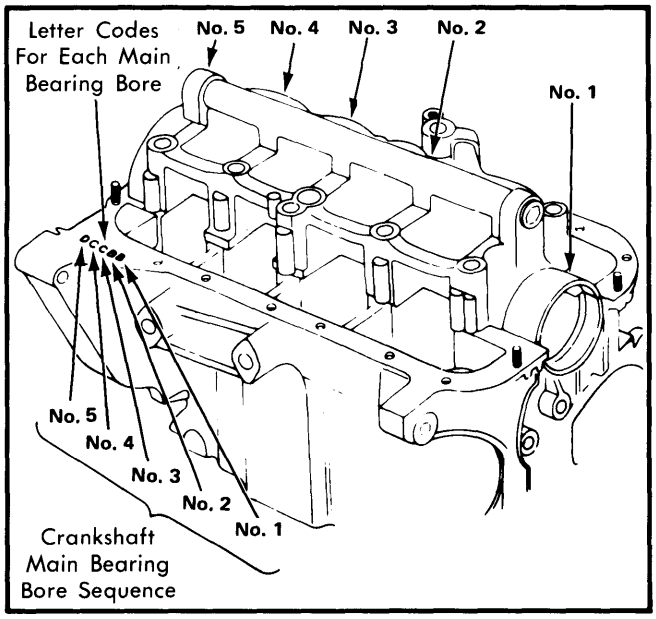

Fig. 8 Crankshaft Identification Locations (1335 cc Engine)

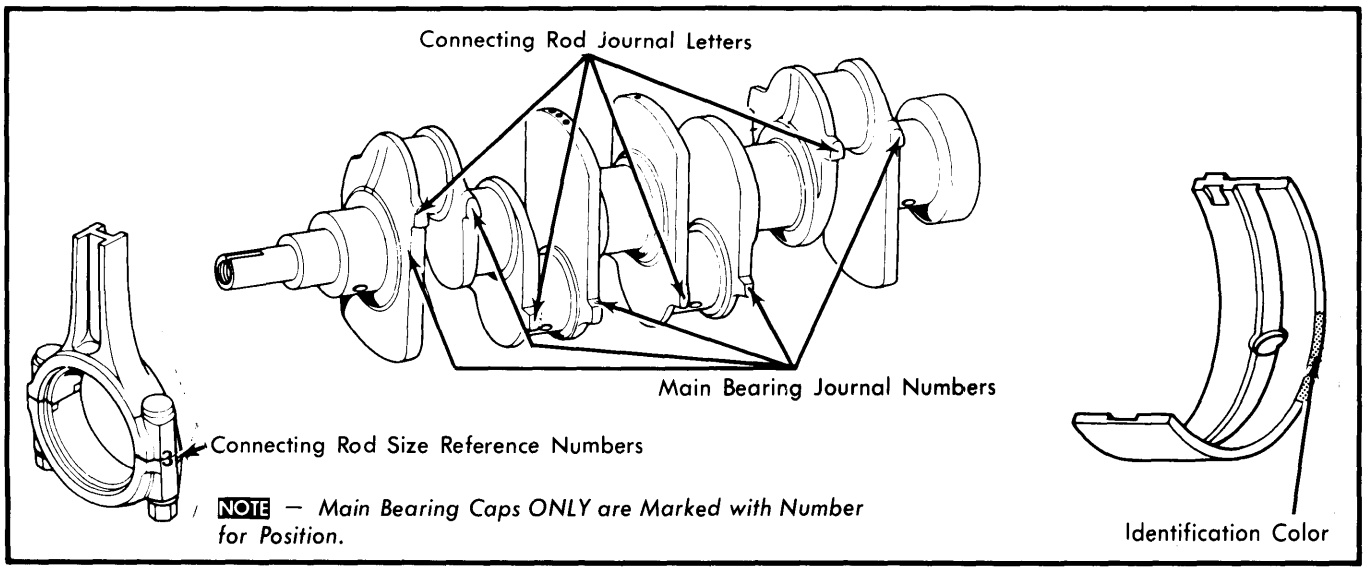

Fig. 9 Connecting Rod Bearing & Cylinder Block Identification Locations

ACCORD, CIVIC, & PRELUDE 4 CYLINDER (Cont.)

2) Measure crankshaft for bend, out-of-round and taper *(See Specifications)*. If any measurement exceeds specifications, crankshaft must be replaced. Do not attempt to regrind crankshaft as bearing journals are specifically heat-treated.

3) Using Plastigage method, determine bearing clearances. If bearing replacement is necessary, use following procedure to determine bearing size to use.

Crankshaft Wear Specifications

Application	Standard In. (mm)	Service Limit In. (mm)
Runout	.0012 (.03)	.0024 (.06)
Taper	.0002 (.005)	.0004 (.010)
Out-Of-Round	.0002 (.005)	.0004 (.010)

4) Referring to *Figs. 7* and *9*, note that all letters stamped on crankshaft counterweight pads apply to nearest connecting rod journal. All numbers stamped on crankshaft counterweight apply to nearest main bearing journal. Connecting rod caps have numbers stamped on cap.

5) The 1751 cc engine has Roman numerals stamped on a pad at flywheel end of engine block indicating each crankshaft bore dimension. The 1487 cc engine has the letters "A", "B", "C", or "D" stamped on a pad at flywheel end of engine block, also indicating each crankshaft bore dimension. The 1335 cc engine block has letters stamped on pads near contact surfaces of block, indicating each main bearing bore dimension. *See Fig. 8.*

6) To determine proper size (color) bearing insert, match crankshaft bore identification numerals or letters with main

CIVIC (1335 cc) MAIN BEARING JOURNALS In. (mm)

Crankcase Bore Dia. 2.13 (54) / Journal Dia. 1.97 (50)	A ①0 to +.0002 (0 to +.006) ②-.0004 to -.0002 (-.010 to -.004)	B ①+.0002 to +.0005 (+.006 to +.012) ②-.0002 to +.0001 (-.004 to +.002)	C ①+.0005 to +.0007 (+.012 to +.018) ②+.0001 to +.0003 (+.002 to +.008)	D ①+.0007 to +.0009 (+.018 to +.024) ②+.0003 to +.0006 (+.008 to +.014)
1 -.0002 to 0 (-.006 to 0)	Red -.0001 to -.0002 (-.002 to -.005)	Pink -.0001 to +.00004 (-.002 to +.001)	Yellow +.00004 to +.0002 (+.001 to +.005)	Green +0002 to +.0003 (+.004 to +.007)
2 -.0005 to -.0002 (-.012 to -.006)	Pink -.0001 to +.00004 (-.002 to +.001)	Yellow +.00004 to +.0002 (+.001 to +.004)	Green +.0002 to +.0003 (+.005 to +.007)	Brown +.00004 to + .0003 (+.001 to +.007)
3 -.0007 to -.0005 (-.018 to -.012)	Yellow +.00004 to +.0002 (+.001 to +.005)	Green +.0002 to +.0003 (+.005 to +.007)	Brown +.00004 to +.0003 (+.001 to +.007)	Black +.0004 to +.0005 (+.010 to +.013)
4 -.0009 to -.0007 (-.024 to -.018)	Green +.0002 to +.0003 (+.005 to +.007)	Brown +.00004 to +.0003 (+.001 to +.007)	Black +.0004 to +.0005 (+.010 to +.013)	Blue +.0005 to +.0006 (+.013 to +.016)

① – Bore dia. tolerance for No. 1, 2, 4 or 5.
② – Bore dia. tolerance for No. 3 only.

CIVIC (1476 cc) MAIN BEARING JOURNALS In. (mm)

Crankcase Bore Dia. 2.13 (54) / Journal Dia. 1.97 (50)	A +.0016 to +.0018 (+.040 to +.046)	B +.0018 to +.0020 (+.046 to +.052)	C +.0020 to +.0023 (+.052 to +.058)	D +.0023 to +.0025 (+.058 to +.064)
1 +.0009 to +.0012 (+.024 to +.030)	Red -.0001 to -.0002 (-.002 to -.005)	Pink -.0001 to +.00004 (-.002 to +.001)	Yellow +.00004 to +.0002 (+.001 to +.005)	Green +0002 to +.0003 (+.004 to +.007)
2 +.0007 to +.0009 (+.018 to +.024)	Pink -.0001 to +.00004 (-.002 to +.001)	Yellow +.00004 to +.0002 (+.001 to +.004)	Green +.0002 to +.0003 (+.005 to +.007)	Brown +.00004 to + .0003 (+.001 to +.007)
3 +.0005 to +.0007 (+.012 to +.018)	Yellow +.00004 to +.0002 (+.001 to +.005)	Green +.0002 to +.0003 (+.005 to +.007)	Brown +.00004 to +.0003 (+.001 to +.007)	Black +.0004 to +.0005 (+.010 to +.013)
4 +.0002 to +.0005 (+.006 to +.012)	Green +.0002 to +.0003 (+.005 to +.007)	Brown +.00004 to +.0003 (+.001 to +.007)	Black +.0004 to +.0005 (+.010 to +.013)	Blue +.0005 to +.0006 (+.013 to +.016)

ACCORD, CIVIC, & PRELUDE 4 CYLINDER (Cont.)

journal identification numbers in the following tables. Where the column and row intersect, find proper bearing insert. Example: For a main bearing, use "Main Bearing Journals" table. If number stamped on crankshaft is "2", and Roman numeral or letter stamped on block for corresponding journal is "III" or "C" respectively, use a "green" insert.

THRUST BEARINGS

Measure crankshaft end play. If found to be excessive, inspect thrust washers and thrust surface of crankshaft. Replace parts if necessary. Do not change thrust washer thickness by either grinding or shimming.

ACCORD & PRELUDE (1751 cc) MAIN BEARING JOURNALS In. (mm)

Crankcase Bore Dia. 2.13 (54) / Journal Dia. 1.97 (50)	I	II	III	IIII
	+.0016 to +.0018 (+.041 to +.046)	+.0018 to +.0020 (+.046 to +.051)	+.0020 to +.0023 (+.051 to +.058)	+.0023 to +.0025 (+.058 to +.064)
1 +.0009 to +.0012 (+.023 to +.030)	Red −.0001 to −.0002 (−.002 to −.005)	Pink −.0001 to +.00004 (−.002 to +.001)	Yellow +.0002 to +.00004 (+.005 to +.001)	Green +.0002 to +.0003 (+.005 to +.007)
2 +.0007 to +.0009 (+.018 to +.023)	Pink −.0001 to +.00004 (−.002 to +.001)	Yellow +.0002 to +.00004 (+.005 to +.001)	Green +.0002 to +.0003 (+.005 to +.007)	Brown +.00004 to +.0003 (+.001 to +.007)
3 +.0005 to +.0007 (+.013 to +.018)	Yellow +.0002 to +.00004 (+.005 to +.001)	Green +.0002 to +.0003 (+.005 to +.007)	Brown +.00004 to +.0003 (+.001 to +.007)	Black +.0004 to +.0005 (+.010 to +.013)
4 +.0002 to +.0005 (+.005 to +.013)	Green +.0002 to +.0003 (+.005 to +.007)	Brown +.00004 to +.0003 (+.001 to +.007)	Black +.0004 to +.0005 (+.010 to +.013)	Blue +.0005 to +.0006 (+.013 to +.015)

CONNECTING ROD BEARING JOURNALS In. (mm)

Connecting Rod Dia. 1.77 (45) ①1.69 (43) / Journal Dia. 1.654 (42) 1.57 (40)①	1	2	3	4
	0 to +.0002 (0 to +.006)	+.0002 to +.0005 (+.006 to +.012)	+.0005 to +.0007 (+.012 to +.018)	+.0007 to +.0009 (+.018 to +.024)
A 0 to −.0002 (0 to −.006)	Red −.0002 to −.0003 (−.005 to −.008)	Pink −.0001 to −.0002 (−.002 to −.005)	Yellow −.0001 to +.00004 (−.002 to +.001)	Green +.00004 to +.0002 (+.001 to +.004)
B −.0002 to −.0005 (−.006 to −.012)	Pink −.0001 to −.0002 (−.002 to −.005)	Yellow −.0001 to +.00004 (−.002 to +.001)	Green +.00004 to +.0002 (+.001 to +.004)	Brown +.0002 to +.0003 (+.004 to +.007)
C −.0005 to −.0007 (−.012 to −.018)	Yellow −.0001 to +.00004 (−.002 to +.001)	Green +.00004 to +.0002 (+.001 to +.004)	Brown +.0002 to +.0003 (+.004 to +.007)	Black +.0003 to +.0004 (+.007 to +.010)
D −.0007 to −.0009 (−.018 to −.024)	Green +.00004 to +.0002 (+.001 to +.004)	Brown +.0002 to +.0003 (+.004 to +.007)	Black +.0003 to +.0004 (+.007 to +.010)	Blue +.0004 to +.0005 (+.010 to +.013)

① − 1335 cc Engine.

ACCORD, CIVIC, & PRELUDE 4 CYLINDER (Cont.)

ENGINE OILING

ENGINE OILING SYSTEM

A rotor type oil pump draws oil from oil pan and delivers it under pressure through main bearing cradle to main and connecting rod bearings. Oil passes through rods to an oil jet which lubricates pistons and cylinder walls. An oil passage carries oil to camshaft bearings and rocker arms. Oil mist lubricates valve stems.

OIL PUMP

1) Remove oil pan, then oil pump assembly may be removed by removing four long bolts (one bolt under strainer). Pull out relief valve cotter pin and remove seat, spring and valve.

2) Remove two pump body bolts and disassemble pump. Inspect pump for wear or damage. Measure pump operating clearances and relief valve spring free length. Reassemble pump making sure marks on rotors face outward and are adjacent to each other. Place oil pickup in container of oil and operate pump with screwdriver to ensure that it is operating. Place finger over outlet hole and check the pressure is created as pump is turned.

Oil Pump Specifications

Application	Standard In. (mm)	Service Limit In. (mm)
Inner-to-Outer Rotor	.002-.006	.008
	(.04-.14)	(.20)
Rotor-to-Body	.0039-.0071	.008
	(.10-.18)	(.20)
Rotor End Clearance	.0012-.0039	.006
	(.03-.10)	(.15)

Crankcase Capacity (with Filter)

Application	Capacity
Civic (1335 and 1487 cc)	3.2 quarts
Accord & Prelude (1751 cc)	3.7 quarts

NOTE – *If oil pump driven gear is to be replaced, camshaft must also be replaced.*

Oil Filter – Disposable with built-in by-pass valve

Pressure Regulator Valve – Non-adjustable

Normal Oil Pressure – 1335 cc & 1487 cc engines, at operating temperature, minimum of 20 psi (1.41 kg/cm^2) at idle and 48-60 psi (3.37-4.22 kg/cm^2) at 3000 RPM. For 1751 cc engine, at operating temperature, minimum of 21 psi (1.48 kg/cm^2) at idle and 54-60 (3.80-4.22 kg/cm^2) at 3000 RPM.

ENGINE COOLING

Thermostat – Starts to open at 176-183°F (80-84°C) and is fully open at 203°F (95°C).

Thermoswitch – Operates at 191-197°F (88.5-91.5°C).

Cooling System Capacity

Application	Capacity (Qts.)
Civic	
1335 cc	5.2
1487 cc	6.4
Accord & Prelude (1751 cc)	6.4

WATER PUMP

Removal – Drain radiator and loosen alternator adjusting bolts. Push alternator toward engine and remove drive belt. Remove water pump and "O" ring seal.

Installation – 1) Reinstall water pump. Loosen cooling system bleed valve located on thermostat housing. Fill radiator with coolant. When air bubbles no longer appear in coolant draining from bleed valve, close valve.

2) Start engine and place heater temperature control lever in high position. Run engine about ten minutes. Again open bleed valve and bleed system until there are no air bubbles in coolant draining from bleed valve. Refill radiator.

ENGINE SPECIFICATIONS

GENERAL SPECIFICATIONS

Year	Displ. cu. ins.	Displ. cc	Carburetor	HP at RPM	Torque (Ft. Lbs. at RPM)	Compr. Ratio	Bore in.	Bore mm	Stroke in.	Stroke mm
1980										
Civic	81	1335	1 x 3-Bbl.	.....	.....	7.9:1	2.83	72.0	3.23	82.0
	91	1487	1 x 3-Bbl.	.....	.....	9.0:1	2.91	74.0	3.41	86.5
Accord & Prelude	107	1751	1 x 3-Bbl.	.....	.....	8.0:1	3.03	77.0	3.70	94.0

ACCORD, CIVIC, & PRELUDE 4 CYLINDER (Cont.)

ENGINE SPECIFICATIONS (Cont.)

VALVES

Engine & Valve	Head Diam. In. (mm)	Face Angle	Seat Angle	Seat Width In. (mm)	Stem Diameter In. (mm)	Stem Clearance In. (mm)	Valve Lift In. (mm)
1335 cc							
Intake	1.374-1.382 (34.9-35.1)	45°	45°	.055-.061 (1.4-1.55)	.2591-.2594 (6.58-6.59)	.0008-.0020 (.02-.05)	.....
Exhaust	1.098-1.106 (27.9-28.1)	45°	45°	.055-.061 (1.4-1.55)	.2574-.2578 (6.537-6.547)	.0025-.0037 (.063-.093)	.....
Auxiliary	.469-.476 (11.9-12.1)	45°	45°	.0139-.0194 (.353-.494)	.215-.216 (5.472-5.487)	.0009-.0023 (.023-.058)	.....
1487 cc							
Intake	1.374-1.382 (34.9-35.1)	45°	45°	.055-.061 (1.4-1.55)	.2591-.2594 (6.58-6.59)	.0008-.0020 (.02-.05)	.....
Exhaust	1.098-1.106 (27.9-28.1)	45°	45°	.055-.061 (1.4-1.55)	.2574-2578 (6.537-6.547)	.0025-.0037 (.063-.093)	.....
Auxiliary	.469-.476 (11.9-12.1)	45°	45°	.0139-.0194 (.353-.494)	.2580-.2593 (6.572-6.587)	.0009-.0023 (.023-.058)	.....
1751 cc							
Intake	1.335-1.343① (33.9-34.1)	45°	45°	.049-.061 (1.25-1.55)	.2748-.2751 (6.98-6.99)	.0008-.0020 (.02-.05)	.....
Exhaust	1.098-1.106 (27.9-28.1)	45°	45°	.049-.061 (1.25-1.55)	.273-.274 (6.94-6.95)	.0024-.0035 (.06-.09)	.....
Auxiliary	.469-.476 (11.9-12.1)	45°	45°	.008-.020 (.20-.50)	.2580-.2593 6.572-6.587	.0009-.0023 (.023-.058)	.....

① – Calif. automatic – 1.37-1.38" (34.9-35.1 mm)

PISTONS, PINS, RINGS

Engine	PISTONS	PINS		RINGS		
	Clearance In. (mm)	Piston Fit In. (mm)	Rod Fit In. (mm)	Rings	End Gap In. (mm)	Side Clearance In. (mm)
1335 cc	.0004-.0020 (.01-.05)	.0004-.0009 (.010-.022)	.0006-.0015 (.016-.039)	No. 1	.006-.014 (.15-.35)	.0008-.0018 (.020-.045)
				No. 2	.006-.014 (.15-.35)	.0008-.0018 (.020-.045)
				Oil	.012-.035 (.3-.9)	.....
1487 cc	.0004-.0024 (.01-.06)	.0004-.0009 (.010-.022)	.0006-.0016 (.014-.040)	No 1	.006-.014 (.15-.35)	.0008-.0018 (.020-.045)
				No. 2	.006-.014 (.15-.35)	.0008-.0018 (.020-.045)
				Oil	.012-.035 (.3-.9)	.....
1751 cc	.0008-.0028 (.02-.07)	.0004-.0009 (.010-.022)	.0006-.0016 (.014-.040)	No. 1 & 2	.006-.014 (.15-.35)	.0008-.0018 (.020-.045)
				Oil	.012-.035 (.3-.9)	.....

ACCORD, CIVIC, & PRELUDE 4 CYLINDER (Cont.)

ENGINE SPECIFICATIONS (Cont.)

CRANKSHAFT MAIN & CONNECTING ROD BEARINGS

Engine	MAIN BEARINGS				CONNECTING ROD BEARINGS		
	Journal Diam. In. (mm)	Clearance In. (mm)	Thrust Bearing	Crankshaft End Play In. (mm)	Journal Diam. In. (mm)	Clearance In. (mm)	Side Play In. (mm)
1335 cc	1.9687-1.9697 (50.006-50.030)	.0009-.0017 (.024-.042)	No. 4	.004-.014 (.10-.35)	1.69 (43)	.0008-0015 (.020-.038)	.006-.012 (.15-.30)
1487 cc	1.9687-1.9697 (50.006-50.030)	.0010-.0022 (.026-.055)	No. 4	.004-.014 (.10-.35)	1.77 (45)	.0008-.0015 (.020-.038)	.006-.012 (.15-.30)
1751 cc	1.9687-1.9697 (50.006-50.030)	.0010-.0017 (.026-.044)	No. 4	.004-.014 (.10-.35)	1.77 (45)	.0008-.0015 (.020-.038)	.006-.012 (.15-.30)

VALVE SPRINGS

Engine	Free Length In. (mm)	PRESSURE Lbs. @ In. (kg @ mm)	
		Valve Closed	Valve Open
1335 cc & 1487 cc			
Intake			
Inner	1.858 (47.2)	18@1.402 (8@35.6)	40@1.008 (18@25.6)
Outer	.200 (50.8)	50@1.488 (22@37.8)	100@1.094 (45@27.8)
Exhaust			
Inner	1.858 (47.2)	18@1.402 (8@35.6)	40@1.008 (18@25.6)
Outer	.200 (50.8)	50@1.488 (22@37.8)	100@1.094 (45@27.8)
Auxiliary			
1335 cc	1.146 (29.1)	16@.906 (7@23.0)	23@.787 (10@20.0)
1487 cc	1.122 (28.5)	15@.984 (7@25.0)	29@.866 (13@22.0)
1751 cc			
Intake			
Inner	1.665 (42.3)	9@1.402 (4@35.6)	31@1.008 (14@25.6)
Outer	1.665 (42.3)	28@1.488 (13@37.8)	108@1.094 (49@27.8)
Exhaust			
Inner	1.665 (42.3)	9@1.402 (4@35.6)	31@1.008 (14@25.6)
Outer	1.665 (42.3)	28@1.488 (13@37.8)	108@1.094 (49@27.8)
Auxiliary			
Calif. A/T	1.17 (29.7)	15@.984 (7@25.0)	33@.87 (15@22.0)
Others	1.122 (28.5)	15@.984 (7@25.0)	29@.866 (13@22.0)

CAMSHAFT

Engine	Journal Diam. In. (mm)	Clearance In. (mm)	Lobe Lift In. (mm)
1335 cc, 1487 cc & 1751 cc	.....	.002-.004 (.05-.098)	.002-.006 (.05-.15)

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (mkg)
Connecting Rod Bolts	23 (3.2)
Main Bearing Bolts	48 (6.6)
Cylinder Head Bolts	43 (6.0)
Camshaft Sprocket Bolt	22 (3.0)
Intake-to-Exhaust Manifold Bolts	18 (2.5)
Manifold Nuts	16 (2.2)
Rocker Arm Support	
6 mm Bolts	9 (1.2)
8 mm Bolts	16 (2.2)
Tie Rod Ends	32 (4.4)
Stabilizer Bar Ends	32 (4.4)
Stabilizer Bar Brackets	28 (3.9)
Lower Arm Ball Joints	
Civic	25 (3.5)
Accord and Prelude	33 (4.5)